

## REMARKS

In response to the Official Action mailed December 19, 2002, Applicants amend their application and request reconsideration. In this Amendment claim 5 is cancelled leaving claims 1-4 and 6-9 pending. Claim 4 is amended. In view of that amendment claims 4 and 5 would be identical if both were pending, accounting for the cancellation of claim 5.

In this Amendment claim 1, from which all other claims depend or which is incorporated in all the claims, is clarified. The invention relates to a composite textile fabric including a single generally uniform fabric layer. An example of that single fabric layer is shown in a cross-sectional view in Figure 2 of the patent application. The single fabric layer consists of two different materials, a hydrophobic material and a hydrophilic material. The two materials are joined together by knitting, weaving, or another technique so that only a small portion of the hydrophilic material is exposed at one surface of the fabric layer, meaning that, at that surface, the material predominantly exposed is the hydrophobic material. Obviously, the opposite side of the fabric layer has an inverse, i.e., complementary, structure in which a large part of the hydrophilic material is exposed and only a small amount of the hydrophobic material is exposed. This fabric layer is described in the patent application at page 8, lines 8-17, for example. This single fabric layer may be part of a more complex structure, such as the diaper structure shown in cross-section Figure 1 of the patent application. In that figure, a layer 12 of a moisture absorbent material, generally referred to in the patent application as an outer absorbance storage layer, collects moisture that is wicked through the single layer fabric. The moisture absorbent layer is adjacent to the side of the single layer fabric where the material predominately exposed is the hydrophilic material. That diaper structure also includes the waterproof layer 14 preventing the moisture collected in the storage layer 12 from escaping.

Claims 1, 6, 8, and 9 were rejected as anticipated by Rearick et al (Published U.S. Patent Application 2002/0064639, hereinafter Rearick). This rejection is respectfully traversed because Rearick is not prior art pursuant to any part of 35 USC 102.

Published U.S. patent applications have an effective date, upon their publication, of their filing date, here September 28, 2001. The present patent application has a filing date of January 16, 2001. Thus, on its face, Rearick cannot be prior art. Presumably the Examiner is relying upon the priority claim of Rearick to U.S. provisional patent application number 60/237,090 filed on September 29, 2000, some 3.5 months prior to the filing date of the present patent application. However, the Examiner has not demonstrated that he is entitled to rely upon that priority date in making a rejection.

If the published Rearick patent application were a continuation of a prior U.S. patent application, then, Rearick would be entitled, pursuant to 35 USC 102, to the filing date of the

parent patent application because the designation "continuation" would indicate that the disclosures of the two documents were identical. If the Rearick published patent application were a continuation-in-part patent application, then a question would arise as to whether the domestic priority claim could be relied upon by the Examiner in making the rejection since the disclosure relied upon for the rejection might not appear in the parent patent application. Here, the situation is even less favorable for the Examiner.

A provisional application need not meet the requirements of 35 USC 112, first paragraph, does not need to include any claim, and, in essence, can be any document since the disclosure does not have to be enabling as to any claimed subject matter. 37 CFR 1.511(c).

Provisional patent applications are never published so there is no document readily available to Applicants, or even to the general public, upon which to verify the propriety of the rejection based upon Rearick.

In essence, the Examiner is not relying upon the Rearick publication in rejecting any claim. The reliance is upon the Rearick provisional patent application. However, no copy of that document has been supplied. If the Examiner intends to maintain that reliance and rejection, a copy of the Rearick provisional patent application should be supplied and should be identified on a PTO-892 form in a subsequent communication. If the Examiner does not choose to obtain and supply a copy of the provisional patent application, then the rejection remains legally erroneous and must be withdrawn.

Claim 1 was rejected as anticipated by Bast et al (Published U.S. Patent Application 2002/0165511, hereinafter Bast). This rejection is respectfully traversed. The Official Action actually stated that claims 1 and 5 were rejected as anticipated by Bast but claim 5 has been cancelled. Further, the entire discussion with respect to this rejection focuses on a diaper construction. Claims 4 and 5, not claims 1 and 5, were directed to a diaper. While claim 4 was not mentioned in the first line of paragraph 3. at page 3 of the Official Action, the reference to claim 3 in line 3 of that paragraph clearly indicates that the Examiner intended to reject claims 4 and 5 as anticipated by Bast, not claims 1 and 5. Thus, the rejection is responded to based upon the belief that is was intended to reject claims 4 and 5, not only claim 4 in view of the cancellation of claim 5.

Although Bast, like Rearick, is a published patent application that has an effective date after the filing date of the present patent application, because it is a continuation of an earlier filed application that has a U.S. filing date earlier than the present patent application and has been published as a U.S. patent, Applicants agree that Bast is prior art pursuant to 35 USC 102. However, Applicants do not agree that Bast anticipates the invention as defined by claim 4. The Examiner directed attention to paragraphs appearing at page 1 of Bast. However, those paragraphs all describe a structure including at least two layers, a first topsheet and a second

topsheet. There is no description or suggestion in these passages of Bast that a single layer should be prepared of two materials different in water absorption characteristic in a *single fabric layer*.

The other portion of Bast cited in the Official Action is paragraph [0038]. That paragraph only discusses employing a moisture impervious backsheet, corresponding to the layer 14 of Figure 1 of the patent application. There is no discussion in that portion of Bast of a fabric with a single layer consisting of hydrophilic and hydrophobic materials with unequal parts of the two materials exposed at opposite sides of the single fabric layer. Even the discussion in other parts of Bast, such as paragraph [0044], do not describe a single layer fabric like the fabric of claim 1, the same fabric that is expressly claimed in claim 4. Instead, Bast is restricted to multiple layers that are respectively hydrophilic or hydrophobic or that have parts treated with various coatings to change their moisture absorption characteristics, at least locally. None of those structures, with or without coatings, describes the single layer fabric of claim 4. Thus, Bast cannot anticipate claim 4.

Claims 1, 3, 4, 6, and 7 were rejected as anticipated by Heiman (EP 0496567). This rejection is respectfully traversed.

What is described in Heiman is summarized in the paragraphs aptly cited by the Examiner, namely page 5 of Heiman, at lines 16-24 and 38-43. The structure described by Heiman is a terry material with loops of two respective yarns projecting from two opposite sides of structure. The ends of these loops from both sides are brought into contact in a central portion of the structure between what is referred to as the top piling portion and the bottom piling portion. The piling portions include the respective loops of the hydrophilic and hydrophobic materials. The ends of theses two different kinds of yarns are brought into contact in the ground portion within the center of the structure for the transfer of moisture from the hydrophobic yarn to the hydrophilic yarn.

The structure described in Heiman, as summarized in the preceding sentences, cannot anticipate any claim now pending because the structure does not include a mixture of hydrophilic and hydrophobic yarns, i.e., materials, at each of the two sides of the structure. Rather, one side of the Heiman structure includes only loops that are hydrophilic and the other side contains loops that are only hydrophobic. Therefore, if the structure described by Heiman could be considered a single layer fabric, it could not be considered such a fabric in which each side has one of the yarns predominating with a lesser amount of the other yarn being exposed. Accordingly, Heiman cannot anticipate claims 1 and 4. Therefore, Heiman cannot anticipate any other pending claim since claims 1 and 4 are the only pending independent claims. If some of the claims that incorporate claim 1 are viewed as independent claims, those additional

independent claims, since they incorporate all of the limitations of claim 1, cannot be anticipated by Heiman. Therefore, no matter how considered, no claim can be anticipated by Heiman.

Claims 1, 3, and 7 were rejected as anticipated by Pernick (U.S. Patent 5, 735, 145). This rejection is respectfully traversed.

Like many of the other cited references, what Pernick describes is not a single layer fabric in which hydrophobic and hydrophilic strands are intermixed so that the opposite sides have different predominant types of strands. Rather, Pernick describes a multiple layer structure including different surface layers separated by an intermediate core layer. See, for example, Figure 2 of Pernick. That structure is clearly not a single fabric layer and is never so described by Pernick. In fact, the structure is always described by Pernick as including spacer yarn 16 interposed between a hydrophobic layer 12 and a hydrophilic layer 14. Thus, Pernick cannot anticipate any claim now pending.

Claim 4 was rejected as unpatentable over Strasser in view of Bast. This rejection is respectfully traversed.

Bast has already been described. Even the Examiner's characterization of Strasser shows that it cannot, if modified by Bast, describe the invention claimed in claim 4. Strasser is not alleged ever to teach a single layer fabric consisting of a hydrophilic and a hydrophobic material with the two different materials predominating at opposite sides of the fabric. As previously discussed, Bast lacks that structure as well. Therefore, even if Strasser is modified by Bast, the modification cannot include the fundamental structure of claim 1, which is an express part of claim 4. Accordingly, the rejection cannot be properly maintained.

Claims 2 and 3 were rejected as unpatentable over Bast in view of Wada et al. (U.S. Patent 6,436,081, hereinafter Wada). This rejection is respectfully traversed.

Wada was cited only as describing the possibility of making inherently hydrophobic materials hydrophilic by applying appropriate coatings and treatments. Applicants agree that this technology is well known. However, since Bast, for the reasons already described, does not anticipate claim 1, and since Wada does not include the parts of claim 1 that are missing from Bast, the combination of Bast and Wada cannot include all of the limitations of claims 2 and 3, dependent claims that incorporate all of the limitations of claim 1. The rejection of claims 2 and 3 should be withdrawn.

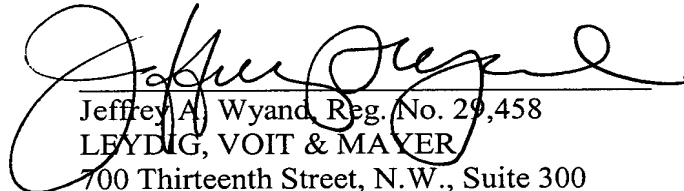
Claim 2 was rejected as unpatentable over Heiman in view of Wada. This rejection is respectfully traversed.

Again, Wada was cited only for the proposition that materials such as polypropylene and polyester can be adjusted in their hydrophilicity by various treatments. As already discussed, Heiman does not disclose the fundamental structure of claim 1. Therefore, even if Heiman is modified with Wada, the structure of claim 2, which incorporates claim 1, cannot be suggested.

In re Appln. of XU et al.  
Application No. 09/759,241

Since no claim now pending is either anticipated by any reference properly relied upon by the Examiner nor made obvious by any combination of the references relied upon by the Examiner, all of the rejections should be withdrawn and the remaining pending claims 1-4 and 6-9 allowed.

Respectfully submitted,

  
Jeffrey A. Wyand, Reg. No. 29,458  
LEYDIG, VOIT & MAYER  
700 Thirteenth Street, N.W., Suite 300  
Washington, DC 20005-3960  
(202) 737-6770 (telephone)  
(202) 737-6776 (facsimile)

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JAW/tpb



**PATENT**  
Attorney Docket No. 401030

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:  
XU et al.

Application No. 09/759,241

Art Unit: 1771

Filed: January 16, 2001

Examiner: A. Wachtel

For: COMPOSITE TEXTILE MATERIAL

**AMENDMENTS TO SPECIFICATION, CLAIMS, AND ABSTRACT  
MADE IN RESPONSE TO OFFICE ACTION DATED DECEMBER 19, 2002**

*Amendments to existing claims:*

1. (Twice Amended) A composite textile fabric comprising a generally ~~uniformly integrated~~ uniform single fabric layer consisting of a hydrophobic material and a hydrophilic material, the single fabric layer including an inner exposed surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophobic material, and an outer surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophilic material, whereby the fabric provides providing a one-way liquid transport system, transporting liquid away from the inner surface towards the outer surface.

4. (Twice Amended) A ~~re-usable~~ diaper comprising an inner layer of a fabric comprising a generally ~~uniformly integrated~~ uniform single fabric layer consisting of a hydrophobic material and a hydrophilic material, the single fabric layer including an inner exposed surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophobic material and an outer surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophilic material, whereby the fabric provides providing a one-way liquid transport system, transporting liquid away from the inner surface towards the outer surface, a middle layer of a treated cotton fabric, and an outer layer of a waterproof material.

6. (Twice Amended) ~~Clothing~~ An article of clothing including the composite textile fabric layer according to Claim 1.

7. (Twice Amended) ~~An incontinence~~ A mattress cover including a composite textile fabric layer according to Claim 1.

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8. (Twice Amended) ~~Clothing~~ The article of clothing according to Claim 6  
~~comprising~~ wherein the article of clothing is boxer shorts.

9. (Twice Amended) ~~Clothing~~ The article of clothing according to Claim 6  
~~comprising~~ wherein the article of clothing is long pants.



**PATENT**  
Attorney Docket No. 401030

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:  
XU et al.

Application No. 09/759,241

Art Unit: 1771

Filed: January 16, 2001

Examiner: A. Wachtel

For: COMPOSITE TEXTILE MATERIAL

**PENDING CLAIMS AFTER AMENDMENTS  
MADE IN RESPONSE TO OFFICE ACTION DATED DECEMBER 19, 2002**

1. A composite textile fabric comprising a generally uniform single fabric layer consisting of a hydrophobic material and a hydrophilic material, the single fabric layer including an inner exposed surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophobic material, and an outer surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophilic material, the fabric providing a one-way liquid transport system, transporting liquid away from the inner surface towards the outer surface.

2. The composite fabric according to Claim 1, in which the hydrophilic material is polypropylene.

3. The composite fabric according to Claim 1, in which the hydrophilic material is one of polyester and cotton.

4. A diaper comprising an inner layer of a fabric comprising a generally uniform single fabric layer consisting of a hydrophobic material and a hydrophilic material, the single fabric layer including an inner exposed surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophobic material and an outer surface of the hydrophobic and hydrophilic materials that is predominantly the hydrophilic material, the fabric providing a one-way liquid transport system, transporting liquid away from the inner surface towards the outer surface, a middle layer of a treated cotton fabric, and an outer layer of a waterproof material.



6. An article of clothing including the composite textile fabric layer according to Claim 1.
7. A mattress cover including a composite textile fabric layer according to Claim 1.
8. The article of clothing according to Claim 6 wherein the article of clothing is boxer shorts.
9. The article of clothing according to Claim 6 wherein the article of clothing is long pants.